Spectral Reservoir

Introduction

An isolated landscape is anything but static; even between days and hours its constituent parts change and exchange matter among themselves, yielding a continuously dynamic system

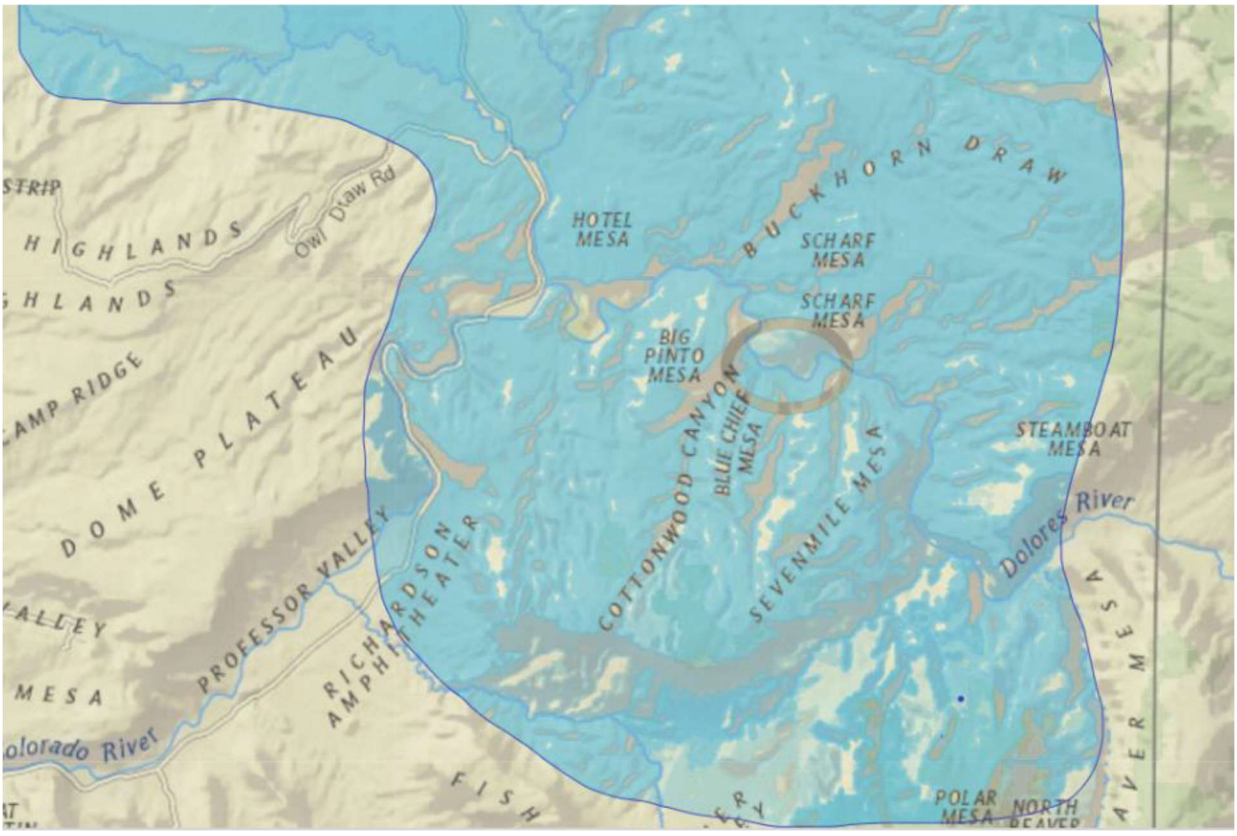
that is, at another level, completely singular. When we study the history of a landscape from the perspective of conservation, learning its human history becomes all the more important. For we humans do not simply alter some constituent parts of a landscape throughout millennia, contributing to its present, completely historically contingent state; We humans have the power to drastically alter the fate of a particular landscape: to devoid it entirely of macrobiotic life in a matter of days, to build light sources that rival the phenological influence of the sun, even to change the course of rivers and to flood entire valleys.

In the case of the Utah Bottoms, which is now called the Bonderman Field Station at Rio Mesa, and operated by the University of Utah as a Research Station, the story of its human history is unique: It was never fully cultivated, converted, or used for anything much- despite its open land and proximity to the Dolores River. Importantly, because of its historical relationship with man, this small valley exists to us today as an invaluable resource for research, fieldwork, and integrated learning. The Rio Mesa field center provides a near pristine wildland that will, as it always has, remain a solitary refuge for the local flora, fauna, and academics.

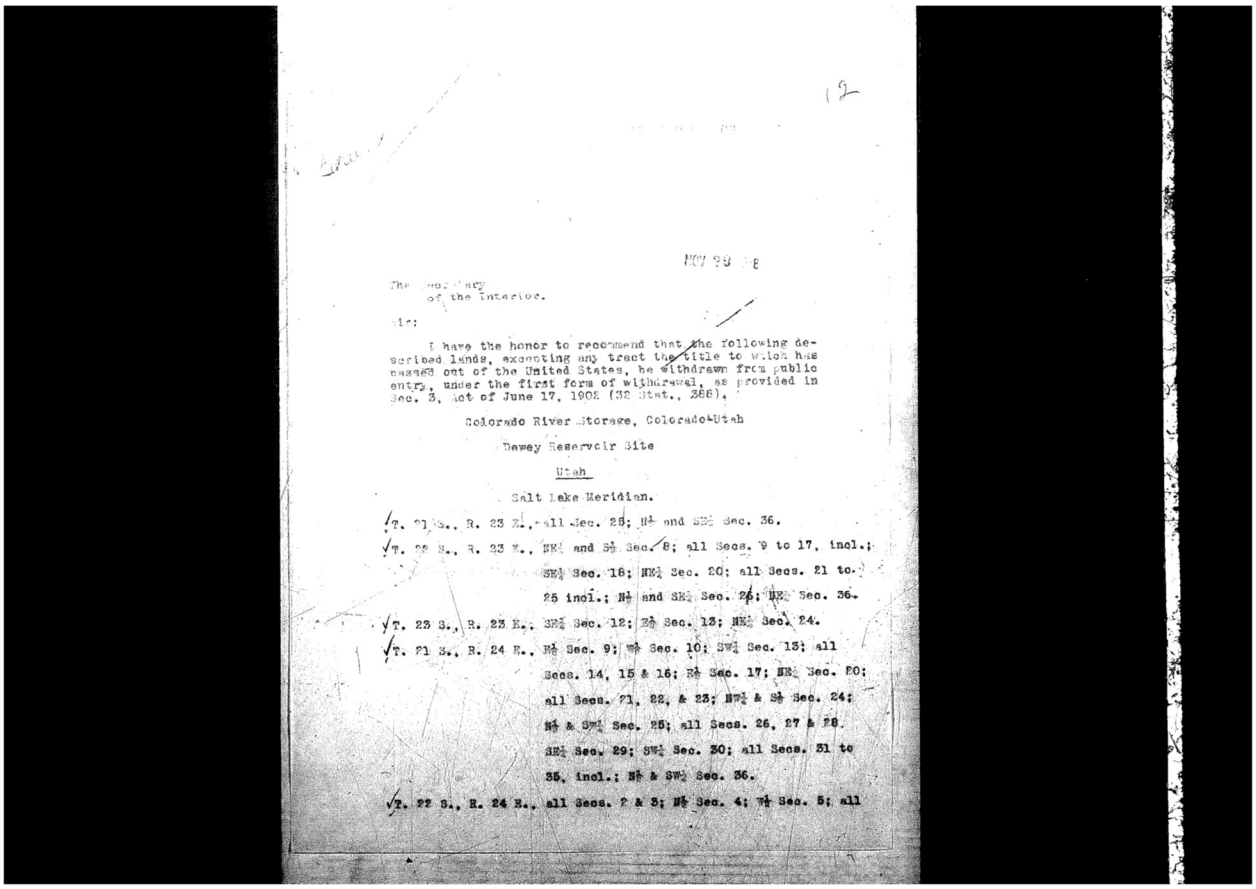
If one ventures to Rio Mesa, they will find that the desert like landscape holds much diversity. Far enough from major population centers, the local plants and animals thrive. Over 100 different bird species pass through, and depend on Rio Mesa's ecosystem services. Larger animals, such as black bears, mountain lions, coyotes, and foxes, are able to find sustenance and shelter in Rio Mesa's canyons and riparian areas. Rio Mesa also boasts well over 100 different species of native and local plant varieties, from cottonwood trees, to cacti, to rock clinging and vibrant penstemon. All of this diversity exists because, in large part, direct human intervention played a miniscule role in its modern development. That is not to say, however, that choices made in modern human history did not fundamentally shape the Rio Mesa that exists today. Rio

Mesa is, in many ways, a poignant representation of the tightly intertwined relationship between human history and natural history.

One of the most impactful moments in Rio Mesa's long relationship with western development occurred in 1917, when the Federal Government abandoned the Proposed Dam Site 195; a plan for a dam on the Colorado that would have altered the Dolores' river pattern and flooded the Utah Bottoms. Of course, if this plan had not been abandoned, Rio Mesa would be an ecosystem of completely different kind. All of the diversity above mentioned would be lost, and the desert-riparian valley would have ceased to exist. This is a story of Rio Mesa's accidental conservation. It is an important story, and an important reminder that the choices we make as a species have far reaching and often unforeseen consequences.



1: the proposed dam site would have created a reservoir that engulfed Rio Mesa (grey circle) and the surrounding land.



The Secretary
of the Interior.

Sir:

I have the honor to recommend that the following described lands, excepting any tract the title to which has passed out of the United States, be withdrawn from public entry, under the first form of withdrawal, as provided in Sec. 3, Act of June 17, 1902 (32 Stat., 388).

Colorado River Storage, Colorado-Utah

Dewey Reservoir Site

Utah

Salt Lake Meridian.

T. 21 S., R. 23 E., all Sec. 25; N½ and SE¼ Sec. 36.
T. 22 S., R. 23 E., NE¼ and S½ Sec. 8; all Secs. 9 to 17, incl.; SW¼ Sec. 18; NE¼ Sec. 20; all Secs. 21 to 25 incl.; N½ and SE¼ Sec. 26; NE¼ Sec. 36.
T. 23 S., R. 23 E., SE¼ Sec. 12; E½ Sec. 13; NE¼ Sec. 24.
T. 21 S., R. 24 E., N½ Sec. 9; W½ Sec. 10; SW¼ Sec. 13; all Secs. 14, 15 & 16; E½ Sec. 17; NE¼ Sec. 20; all Secs. 21, 22, & 23; NW¼ & S½ Sec. 24; N½ & SW¼ Sec. 25; all Secs. 26, 27 & 28. SE¼ Sec. 29; SW¼ Sec. 30; all Secs. 31 to 35, incl.; N½ & SW¼ Sec. 36.
T. 22 S., R. 24 E., all Secs. 2 & 3; N½ Sec. 4; W½ Sec. 5; all

2: The first page of the Conservation order 195

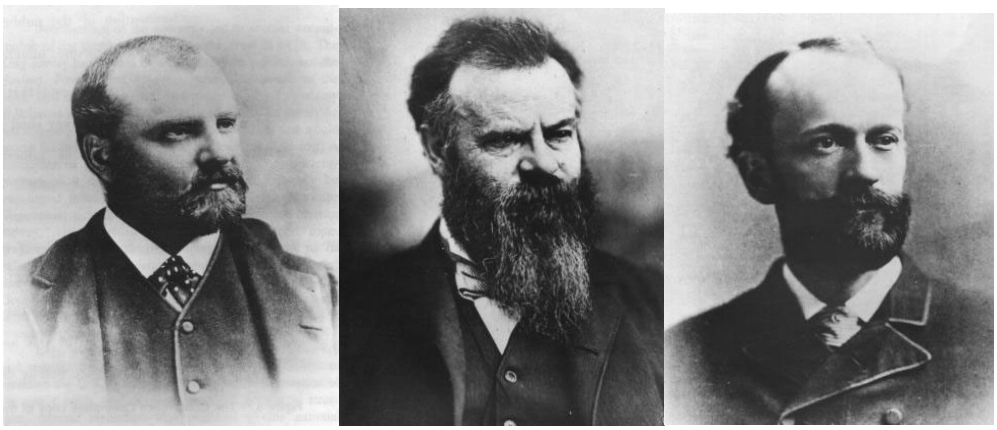
Early Federal Land Management

The latter half of the 19th century in America saw the destabilization of the union, as well as its restoration. It also saw the greatest land expansion and American migration efforts to date. With so much more land to manage, the federal government needed to streamline the surveillance and administration of its public lands. Of course, the federal government had public land holdings and even land survey systems in place before even the signing of the United States Constitution. However, federal land management was not a simple task. The government had rights to manage the sale and maintenance of its lands, but it also had the responsibility to do so

in the most economically and politically sound ways. It had to consider the formation of new states, the homesteading of American Land out west, and the preservation and cultivation of valuable resources.

The first half century after the civil war saw the creation and consolidation of a panoply of land management and surveillance agencies, under the umbrella of a panoply of different federal bureaus organizations. Because of this, the boundaries between and duties within land management agencies were often unclear, but certainly dynamic. At the same time, vast swaths of US citizens and other migrants were occupying the American west. Attitudes among citizens and government officials toward the land were that of utility: citizens wanted to expand, and the government wanted to efficiently and effectively yield economic beneficence from their land holdings. Beneficial use of land at the time was largely concerned with the discovery and mining of mineral resources, especially as the country saw increasing industrialization.

The nationalization of land surveillance began in the 1870s with a last-minute amendment to a "sundry civil expenses bill" that allowed for the formation of the United States Geological Survey, to be placed within the Department of the Interior (at the time, the general land office, which handled the acquisition and sale of public lands, was actually housed in the Department of the Treasury). The USGS was tasked with not only the classification of public lands, but also with understanding the new territories' geological composition in order to cultivate and preserve its mineral resources, and other "products of the national domain". Under this broad prescription, the USGS became many things under its first three directors.
The USGS was also one of many disparate land management agencies at the time.



3: Clarence King, Director 1879-1881

4: John W Powell, Director 1881-1894

5: Clharles D. Walcott, Director 1894-1907

Due in large part to political pressure and governing ideas about the value of certain sciences, by the time American citizens had settled the west and people were living at and around Rio Mesa, the USGS had mostly become a national service for the furthering of economic resources. Minerology was widely perceived as an economically valuable science, and natural history and ethnology was not. As the nation and the USGS evolved, land classification and research that would yield the greatest economic good for the lowest expense was sought after.

In the 1880's, hydroelectric power was developed in certain areas in America. At the same time, the US government felt the need to measure exactly how much water the areas of the arid west held. Public land management, and land surveillance, was beginning to consider water itself as a valuable land resource. Thus, the USGS became part of an extensive network of stream gauging as well as underground water mapping programs.

By the early 1900s, The US was facing somewhat of an oil shortage, and hydroelectric power was beginning to be considered a viable energy replacement. Since the USGS had already

been tasked with most of the nation's water mapping, it also became the agency that would seek out and conserve potential water sites to be used for the development of water powered energy systems across the nation. It was during this time that the land at Rio Mesa was identified as a potential power reserve, and it became unattainable to private land homesteaders of the west.

6: Sam and Mary Scharf at Rio Mesa

Meanwhile, at Rio Mesa

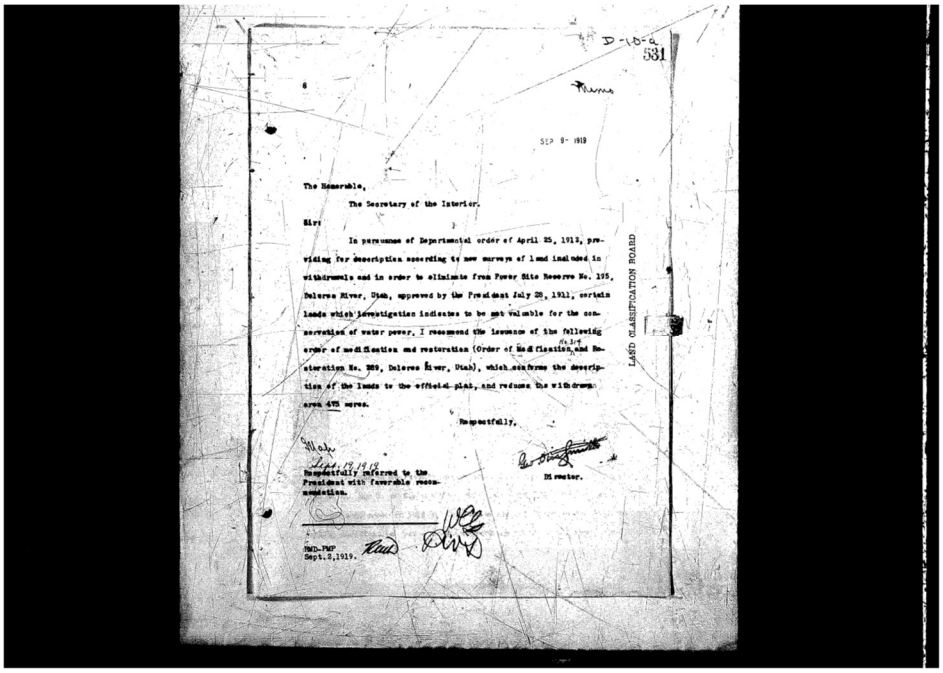
Despite the land's withdrawal from public entry, the Scharff family had been living on Rio Mesa and making modest attempts at irrigating and cultivating the land for over two decades. Sam Scharff, the patriarch, was a civil war veteran who took his growing family west. Some that knew him say he traveled farther and farther west until he felt he had found a spot where he could finally be left alone. Rio Mesa might have brought him solitude, but it did not provide much in the way of sustenance.

Sam and his sons tirelessly tried to irrigate the land and make it suitable for farming, but the soil composition turned irrigation ditches into mud pools year after year. Still, he persisted. He raised some livestock and some chickens on the land, and built a few small structures, including an ice house near line canyon, which students and researchers can still visit today. It is said that he built the ice house so that his wife, Mary, could have cold iced tea year-round[1].

[1] Almost all of the information about the Scharf family was shared with me by Elaine Clark, and her work "The Scharfs at Utah Bottom"

Luckily for Rio Mesa and for the Scharff family, the water reserve program was quickly forgotten in the wake of the first world war, as America was once again politically pressured to prioritize the economic and immediately practical value of land. Funds were diverted from experimental and hopeful projects back to the heavy mining and cultivation of mineral resources. In a wartime economy, the development of hydroelectric power became less and less of a national priority. Thus, the national government did not form a water power resource system to rival that of natural gas, and Rio Mesa—along with countless other tracts of riparian landscapes—was forgotten too.

In 1918 Rio Mesa was restored to the public, and the Scharfs were able to patent the land, beginning its rather quiet journey through private ownership and continued accidental conservation. By the time Sam owned his little piece of Utah Bottoms, he and his wife had moved on to Green River, Colorado. Like their father, all of the Scharf children had moved on as well. Many remained in and around Moab, and some stayed close by in Colorado, and two went on to California. It's unclear whether it was simply age, or if Sam became tired of the unpredictable conditions, frequent droughts, and unruly landscape, or perhaps he had simply given up fighting for the home he had resigned himself to never owning. But those who knew Sam say that he could never remain sedentary; he had to always be working toward something and moving forward. Perhaps he never intended the rough conditions in Rio Mesa to be his permanent home, and rather an extended foray into untamed isolation.



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SEP 9- 1919

The Honorable,
The Secretary of the Interior.
Sir:

In pursuance of Departmental order of April 25, 1912, providing for description according to new surveys of land included in withdrawals and in order to eliminate from Power Site Reserve No. 195, Dolores River, Utah, approved by the President July 28, 1911, certain lands which investigation indicates to be not valuable for the conservation of water power, I recommend the issuance of the following order of modification and restoration (Order of Modification and Restoration No. 289, Dolores River, Utah), which conforms the description of the lands to the official plat, and reduces the withdrawn area 475 acres.

Respectfully,

Director.

Sept. 19 1919
Respectfully referred to the President with favorable recommendation.

WMD-PMP
Sept.2,1919.

LAND CLASSIFICATION BOARD

7: Order of Restoration Number 289

After the Scharfs, the title for the land fell in to the hands of a litany of small skilled ranchers and farmers, none of whom could make a severe and lasting impact on the wild land. In the 70s, a group purchased the land trying to harness Rio Mesa's serene and isolated atmosphere for therapeutic purposes, but that too only lasted a short time. Finally, it remained a small guest ranch seeing intermittent use until in the early 2000's it was purchased by David Bonderman and leased (and in 2015 generously donated) to the University of Utah, who sought to transform it into a research station that sought out the marriage of science and art, in order to "imagine and act on new narratives for a sustainable future" (*Embedded in Nature*, 12)

Conclusions:

To think of a wild landscape is often to think of something that operates independently from human influence. The systems of nature are often depicted as foils for the systems of man, and natural history typically focuses on the way resident flora and fauna contribute to the

shaping of a landscape over millennia. But we too often forget just how intertwined human history and natural history are. Choices that we make cascade across generations, and have the potential to fundamentally alter the material history of landscapes that appear to be far outside of our reach. Of course, it's easy to see the scope and severity of our potential impact on landscapes with which we directly interact: places that were once wild which now house sprawling cities, entire forests lost to lumber and farming practices, and so on. But our impact is constant and cosmopolitan.

As it modernly stands, each and every square inch of the planet owes its current material state to choices that we did or didn't make as a species. There is no natural history that does not include human history. Natural history is, in every sense and every context, determined by human history.

The land at Rio Mesa was taken by the government in a time of science enthusiasm. Land management bodies held the power to reserve land for the hope of innovation. The salvation of Rio Mesa can be seen as nothing more than a fortuitous shift in federal land valuation, across a pendulum that swings between economy and ecology. But Rio Mesa stands today in the specter of a reservoir that would have represented a monumental shift in energy production across the nation. Rio Mesa's conservation equates to the abandonment of an early quest for renewable energy. Rio Mesa offers its isolation and diversity today because the development of hydroelectric power was forsaken so many years ago. But Rio Mesa also stands today as a symbol of hope, scholarship, and conservation. Being used as a research station, it exists as a locus of curiosity and interdisciplinary research that seeks to transform ecological conservation work throughout the west.

Thus, Rio Mesa stands as a symbol for the constant trade-offs that we face in determining the best courses for ecosystem conservation. The story begs an important question: would it have been better to transform the ecosystem at Utah Bottoms if it meant the early conservation of coal and natural gas? If Rio Mesa, and the countless other waterpower sites had been developed in the early 20th century, what would the modern global climate look like? Certainly, all of our choices have downstream effects, and Rio Mesa's accidental early conservation reminds us that our choices determine the shape and character of the entire planet.

We have the power to transform lands, and we have historically wielded that power with little precaution. The choices we make for ourselves, for our economy, and for our use of natural resources drastically changes the world around us. Rio Mesa could have been a barren reservoir, but it could have also been a part of a system of renewable water energy that would have freed us from natural gas dependence nearly a century ago. Looking forward, we must think of conservation both at a global and at a local level. The world around us will develop as we direct it to, and we must determine the ways in which we ought to value our lands.

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